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QUANTITATION OF INDIVIDUAL SUGARS BY HPLC

A method for the quantitation of individual sugars in tobacco has been developed, using the HP 1084 HPLC system equipped with a HP RI detector. A 25 cm Whatman PAC 10 column is used in conjunction with a Corasil AX guard column and eluted with a 80/20 CH₃CN/H₂O mixture.

As an application, fructose, glucose and sucrose were quantitized in Spotless OR, FC and BU tobaccos. The method is also applicable to other sugars in tobacco. The sample clean-up was derived from an unpublished method previously described by Ayers (1). The only difference was a further clean-up with a Sep-Pak cartridge.

Detection limit could be brought down to 1µg for fructose.

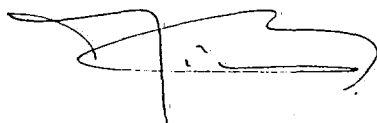
Detector response is about the same for all three sugars and linear within the range investigated.

Standard deviation for sets of tobacco samples analyzed on different days was found to be within about 5%.

It should be noted that integrator readings can be misleading in the case of small and broad peaks, due to negative peaks, frequent baseline drifts and electrical noise at high sensitivities.

REFERENCE

(1) C.W. Ayers, private communication



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